

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

FAY 420-9210 (425) 420-9200

(509) 924-9200

4-9290 (503) 906-9200 FAX 906-9210 (541) 383-9310 FAX 382-7588

		OI.	CUS	10	DY	KE	PUI	KI.			Wo	rk O	rder #:	MIO	7022	
CLIENT: BRISTOL REPORT TO: Anne Kranawer Address: Amchifha Is. A				INVO	ICE TO:	D	1213	77	1				TUF		REQUEST in Business	Days*
REPORT TO: Anne Kranawer	Hen					15	1010	10	_						ic & Inorganic Analyses	
ADDRESS: Analytha I. A	HC															1 <1
220-0024	77	1-09	7-				-1 :05	7.7					STD.	_	m Hydrocarbon Analyses	110
PROJECT NAME: AMCHITICA	FAX: //C	70 · 0 · 1 · 3 P.C			P.O. NUMBER: 71090 REQUESTED ANALYSES								TD.			
PROJECT NUMBER: 21090		1	_		I I	CLSTL	DANA	ETGES						ОТН	Please Specify	
SAMPLED BY: DIV		Bo. 180	3	1	T								*Turn	around Requests	less than standard may incur Rush	Charges.
CLIENT SAMPLE SAMPLING	G	PCBS	We talk	of the	2	>							MATRIX	# OF		NCA WO
IDENTIFICATION DATE/TIM		7 K	3	The of w	202								(W, S, O)		COMMENTS	ID
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541.383.9310 fax 541.382.7588

7 December, 2001

Anne Kranawetter Bristol Environmental & Engineering 2000 W International Airport C#1 Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are the results of analyses for samples received by the laboratory on 07/10/01 11:13. If you have any questions concerning this report, please feel free to contact me.

This report was recreated from a previously issued final report in order to provide an electronic copy. The final report used for these electronic copies may have been previously issued as an amended report due to client requested changes to sample names, etc. No data has changed since submission of the previously issued final, or amended, report.

Sincerely,

Stephen Wilson

Environmental Group Leader

1112

Work Orders included in this report:

M107022



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541.383.9310 fax 541.382.7588

Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

07/17/01 11:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMTE08SW	M107022-01	Water	07/10/01 10:25	07/10/01 11:13

COC #160

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

07/17/01 11:18

Polychlorinated Biphenyls per EPA Method 8082 North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE08SW (M107022-01) Water					Sampled: 07/	10/01 Rece	eived: 07/10/	01	
Aroclor 1016	ND	0.200	ug/l	1	EPA 8082	07/10/01	07/10/01	0107040	
Aroclor 1221	ND	0.400	"	"	"	"	"	"	
Aroclor 1232	ND	0.200	"	"	"	"	"	"	
Aroclor 1242	ND	0.200	"	"	"	"	"	"	
Aroclor 1248	ND	0.200	"	"	"	"	"	"	
Aroclor 1254	ND	0.200	"	"	"	"	"	"	
Aroclor 1260	ND	0.200	"	"	"	"	"	"	
Surr: 2,4,5,6-Tetrachloro-m-xylene	75.0 %	44-119			·				
Surr: Decachlorobiphenyl	82.5 %	54-128							

North Creek Analytical - Mobile Lab

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Reported:

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter 07/17/01 11:18

Total Metals per EPA 6000/7000 Series Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE08SW (M107022-01) Water					Sampled: 07/	10/01 Rece	eived: 07/10/	01	
Arsenic	ND	0.00500	mg/l	1	EPA 6020	07/11/01	07/12/01	0107046	
Cadmium	ND	0.00200	"	"	"	"	"	"	
Chromium	ND	0.00500	"	"	"	"	"	"	
Lead	ND	0.00500	"	"	"	"	"	"	
Selenium	ND	0.00500	"	"	"	"	"	"	
Silver	ND	0.00200	"	"	"	"	"	"	
Mercury	ND	0.0000100	"	"	EPA 1631	07/12/01	07/13/01	0107050	

North Creek Analytical - Mobile Lab



Anchorage, AK 99502-1116

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-9223

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

07/17/01 11:18

Reported:

Project Manager: Anne Kranawetter

Conventional Chemistry Parameters per APHA/EPA Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE08SW (M107022-01) Water					Sampled: 07/	10/01 Rece	ived: 07/10/	01	
Biochemical Oxygen Demand	6.11	4.00	mg/l	1	EPA 405.1	07/10/01	07/17/01	0107042	
Dissolved Oxygen	8.89	1.00	"	"	EPA 360.1	07/10/01	07/10/01	0107039	
pН	6.60	0.100	pH Units	"	EPA 150.1	"	"	"	
Total Suspended Solids	ND	10.0	mg/l	"	EPA 160.2	07/11/01	07/12/01	0107048	

North Creek Analytical - Mobile Lab



Anchorage, AK 99502-1116

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

07/17/01 11:18

Microbiological Parameters per APHA Standard Methods North Creek Analytical - Mobile Lab

Project Manager: Anne Kranawetter

Analyte	Result	Reporting Limit U	Jnits	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMTE08SW (M107022-01) Water					Sampled: 07	/10/01 Rece	eived: 07/10/	01	
E. Coli Total Coliforms	ND 2420	2.00MPN 2.00	V/100 m	l 1 "	SM 9221	07/10/01	07/12/01	0107041	B-14

North Creek Analytical - Mobile Lab

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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported: 07/17/01 11:18

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

Polychlorinated Biphenyls per EPA Method 8082 - Quality Control

North Creek Analytical - Mobile Lab

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0107040 - 3520B Liq-Liq

Blank (0107040-BLK1)				Prepared & A	Analyzed: 07/1	0/01			
Aroclor 1016	ND	0.200	ug/l	•					
Aroclor 1221	ND	0.400	"						
Aroclor 1232	ND	0.200	"						
Aroclor 1242	ND	0.200	"						
Aroclor 1248	ND	0.200	"						
Aroclor 1254	ND	0.200	"						
Aroclor 1260	ND	0.200	"						
Surr: 2,4,5,6-Tetrachloro-m-xylene	0.00489		"	0.200	2.44	44-119			A-01
Surr: Decachlorobiphenyl	0.180		"	0.200	90.0	54-128			
LCS (0107040-BS1)				Prepared & A	Analyzed: 07/1	0/01			
Aroclor 1254	4.49	2.00	ug/l	5.00	89.8	47-155			
Surr: 2,4,5,6-Tetrachloro-m-xylene	0.0872		"	0.200	43.6	44-119			A-01
Surr: Decachlorobiphenyl	0.422		"	0.200	NR	54-128			S-02
LCS Dup (0107040-BSD1)				Prepared & A	Analyzed: 07/1	0/01			
Aroclor 1254	4.31	2.00	ug/l	5.00	86.2	47-155	4.09	50	
Surr: 2,4,5,6-Tetrachloro-m-xylene	0.135		"	0.200	67.5	44-119			
Surr: Decachlorobiphenyl	0.162		"	0.200	81.0	54-128			

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

07/17/01 11:18

Total Metals per EPA 6000/7000 Series Methods - Quality Control

North Creek Analytical - Mobile Lab

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Blank (0107046-BLK1)				Prepared: 07/11/01 Analyzed: 07/12/01
Arsenic	ND	0.00500	mg/l	
Cadmium	ND	0.00200	"	
Chromium	ND	0.00500	"	
Lead	ND	0.00500	"	
Selenium	ND	0.00500	"	
Silver	ND	0.00200	"	
LCS (0107046-BS1)				Prepared: 07/11/01 Analyzed: 07/12/01

LCS (0107046-BS1)	Prepared: 07/11/01	Prepared: 07/11/01 Analyzed: 07/12/01					
Arsenic	0.104	0.00500	mg/l	0.100	104	80-120	
Cadmium	0.107	0.00200	"	0.100	107	80-120	
Chromium	0.101	0.00500	"	0.100	101	80-120	
Lead	0.101	0.00500	"	0.100	101	80-120	
Selenium	0.107	0.00500	"	0.100	107	75-115	
Silver	0.0992	0.00200	"	0.100	99.2	80-120	

Duplicate (0107046-DUP1)	Sor	arce: M1070	22-01	Prepared: 07/11/01 Analyzed:	07/12/01		
Arsenic	ND	0.00500	mg/l	ND	30.6	20	Q-06
Cadmium	ND	0.00200	"	ND	92.3	20	Q-06
Chromium	ND	0.00500	"	ND	79.7	20	Q-06
Lead	ND	0.00500	"	ND	55.7	20	Q-06
Selenium	ND	0.00500	"	ND		20	
Silver	ND	0.00200	"	ND	54.5	20	Q-06

Matrix Spike (0107046-MS1)	Sou	ırce: M10702	22-01	Prepared	d: 07/11/0	1 Analyz	ed: 07/12/01
Arsenic	0.119	0.00500	mg/l	0.100	ND	117	75-125
Cadmium	0.112	0.00200	"	0.100	ND	112	75-125
Chromium	0.107	0.00500	"	0.100	ND	107	75-125
Lead	0.103	0.00500	"	0.100	ND	102	75-125
Selenium	0.117	0.00500	"	0.100	ND	117	75-125
Silver	0.0873	0.00200	"	0.100	ND	87.2	75-125

North Creek Analytical - Mobile Lab



Reported:

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter 07/17/01 11:18

Total Metals per EPA 6000/7000 Series Methods - Quality Control

North Creek Analytical - Mobile Lab

	1101	th Citch i	AIICHI , CI	cui ivio,	one Du					
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 0107050 - EPA 1631										
Blank (0107050-BLK1)				Prepared	d: 07/12/0	1 Analyz	ed: 07/13/0)1		
Mercury	ND	0.0000100	mg/l							
LCS (0107050-BS1)				Prepared	d: 07/12/0	1 Analyze	ed: 07/13/0)1		
Mercury	0.000124	0.0000100	mg/l	0.000125		99.2	85-115			
Duplicate (0107050-DUP1)	Source: M107022-01		Prepared: 07/12/01 Analyzed: 07/13/01)1				
Mercury	ND	0.0000100	mg/l		ND				20	
Matrix Spike (0107050-MS1)	Source: M107022-01		22-01	Prepared: 07/12/01 Analyzed: 07/13/01)1			
Mercury	0.000113	0.0000100	mg/l	0.000125	ND	90.4	75-125			

North Creek Analytical - Mobile Lab



425.420.9200 fax 425.420.9210

Prepared: 07/11/01 Analyzed: 07/12/01

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

07/17/01 11:18

Conventional Chemistry Parameters per APHA/EPA Methods - Quality Control North Creek Analytical - Mobile Lab

Units 22-01 pH Units mg/l	•	Result d & Analy 6.60 d: 07/10/0		Limits 0/01 ed: 07/17/0	1.50	Limit 200	Notes
pH Units	•	6.60				200	
pH Units	•	6.60				200	
	Prepared		1 Analyz	ed: 07/17/0		200	
mg/l	Prepare	d: 07/10/0	1 Analyz	ed: 07/17/0)1		
mg/l	Prepare	d: 07/10/0	1 Analyz	ed: 07/17/0)1		
mg/l							
<i>G</i> -							
	Prepare	d: 07/10/0	1 Analyz	ed: 07/17/0)1		
mg/l	198		92.4	75-125			
22-01	Prepare	d: 07/10/0	1 Analyz	ed: 07/17/0	1		
mg/l		6.11			7.86	40	
	22-01	22-01 Prepare	22-01 Prepared: 07/10/0	22-01 Prepared: 07/10/01 Analyz	22-01 Prepared: 07/10/01 Analyzed: 07/17/0	22-01 Prepared: 07/10/01 Analyzed: 07/17/01	22-01 Prepared: 07/10/01 Analyzed: 07/17/01

Total Suspended Solids	ND	10.0	mg/l	ND			20
Duplicate (0107048-DUP1)	Source: M107022-01			Prepared: 07/11/0	01 Analyz	zed: 07/12/01	
Total Suspended Solids	119	10.0	mg/l	120	99.2	80-120	
LCS (0107048-BS1)				Prepared: 07/11/0	01 Analyz	zed: 07/12/01	
Total Suspended Solids	ND	10.0	mg/l				

North Creek Analytical - Mobile Lab

Blank (0107048-BLK1)



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Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

07/17/01 11:18

Microbiological Parameters per APHA Standard Methods - Quality Control

North Creek Analytical - Mobile Lab

		R	eporting		Spike	Source		%REC		RPD	
I	Analyte Re	esult	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0107041 - Micro Extractions

Blank (0107041-BLK1)		Prepared: 07/10/01 Analyzed: 07/12/01
E. Coli	ND	2.00 MPN/100
		ml
Total Coliforms	ND	2.00 "

North Creek Analytical - Mobile Lab



9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter 07/17/01 11:18

Portland

Notes and Definitions

A-01	Sample was blow	yn to dry durin	extraction causing	a low value for TCX.
11 01	Dulliple was blo	vii to di y dullili,	CAU action causing	a low value for 1 C21.

B-14 Result is greater than (>) stated value.

Q-06 Analyses are not controlled on RPD values from sample concentrations less than 5 times the reporting limit.

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds

present in the sample.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.

wet Sample results reported on a wet weight basis (as received)

RPD Relative Percent Difference

North Creek Analytical - Mobile Lab

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			Report recreated from: \\sisters\elmnt\Report\M107022 FINAL 07 17 01 1118.mdb
			Default Report (not modified)
0107040-BLK1	8082 PCB	2,4,5,6-Tetrachloro-m-xylene	Exceeds lower control limit
0107040-BLK1	8082 PCB	2,4,5,6-Tetrachloro-m-xylene	A-01
0107040-BS1	8082 PCB	Decachlorobiphenyl	Exceeds upper control limit
0107040-BS1	8082 PCB	2,4,5,6-Tetrachloro-m-xylene	Exceeds lower control limit
0107040-BS1	8082 PCB	Decachlorobiphenyl	S-02
0107040-BS1	8082 PCB	2,4,5,6-Tetrachloro-m-xylene	A-01
0107046-DUP1	Ag Total ICPMS 6020	Silver	Q-06
0107046-DUP1	Ag Total ICPMS 6020	Silver	Exceeds RPD limit
0107046-DUP1	As Total ICPMS 6020	Arsenic	Q-06
0107046-DUP1	As Total ICPMS 6020	Arsenic	Exceeds RPD limit
0107046-DUP1	Cd Total ICPMS 6020	Cadmium	Exceeds RPD limit
0107046-DUP1	Cd Total ICPMS 6020	Cadmium	Q-06
0107046-DUP1	Cr Total ICPMS 6020	Chromium	Q-06
0107046-DUP1	Cr Total ICPMS 6020	Chromium	Exceeds RPD limit
0107046-DUP1	Pb Total ICPMS 6020	Lead	Exceeds RPD limit
0107046-DUP1	Pb Total ICPMS 6020	Lead	Q-06
M107022-01	TC MPN-SM9221	Total Coliforms	B-14